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10/680,046	10/07/2003	Tuan Vo-Dinh	6321-231	5270

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EXAMINER

FORMAN, BETTY J

ART UNIT PAPER NUMBER

1634

DATE MAILED: 04/13/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/680,046

Applicant(s)

VO-DINH, TUAN

Examiner

BJ Forman

Art Unit

1634

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 27 January 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-33 is/are pending in the application.
- 4a) Of the above claim(s) 22-33 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-21 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) ☒ Notice of References Cited (PTO-892) | 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) ☐ Notice of Informal Patent Application (PTO-152) |
| 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) ☐ Other: _____ |

FINAL ACTION

Status of the Claims

1. This action is in response to papers filed 27 January 2006 in which claims 1, 13 and 16 were amended. The amendments have been thoroughly reviewed and entered.

The previous objections and rejections in the Office Action dated 27 September 2005, not reiterated below, are withdrawn in view of the amendments. Applicant's arguments have been thoroughly reviewed but are deemed moot in view of the amendments, withdrawn rejections and new grounds for rejection. New grounds for rejection, necessitated by the amendments, are discussed.

Claims 1-21 are under prosecution.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1,3-4, 10-12, 16 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lefkowitz et al (U.S. Patent No. 6,841,663, filed 18 October 2001) in view of Sampas (U.S. Patent No. 6,084,991, issued 4 July 2000).

Regarding Claim 1, Lefkowitz et al disclose an integrated circuit comprising a plurality of probe microarrays, each having a plurality of probe elements arranged as a 2-dimensional array of probes (Column 9, lines 4-55 and Fig. 1-2), a source of electromagnetic radiation for

Art Unit: 1634

simultaneously irradiating said probes on the array (e.g. laser light source illuminates the probes at detecting location # 610, Column 20, lines 30-32 and Fig. 13) a structure for translating the plurality of microarrays into optical alignment with the light source wherein the microarrays are replaceable with the next microarray (i.e. motor connected to reel # 432, Column 19, lines 61-67), a circuit including a plurality of detection channels to which the probes are brought into alignment for sensing (e.g. scanner, Column 19, lines 37-60) and an electronic control system connected to the translating means for optical alignment with the radiation i.e. the scanner and motor-driven transport system (Column 19, lines 59-67) function to align a detection location #610 during detection and to "restrain the web from movement" to assist maintaining the web at the detection location (Column 20, lines 23-30). Lefkowitz et al further teach the scanner is "any suitable apparatus for reading an array, such as one which can read the location and intensity of fluorescence at each feature" (Column 19, lines 46-48) but they do not specifically teach synchronization of the system including time intervals. However, synchronized array scanning systems were well known in the art at the time the claimed invention was made as taught by Sampas.

Sampas teaches a system comprising a source of electromagnetic radiation, a translating structure (stepper motor and stage) a plurality of detection channels (CCD array) for optical alignment of the array and a control system connected to the translating structure for synchronizing optical alignment of the sample so as to cease translation while sensing and subsequent re-alignment (time between incremental steps generated by the motor controller in response to an electronic signal) (Column 7, lines 28-58). Sampas teaches the synchronized system provides high resolution, high detection efficiency and good background suppression using a small number of moving parts (Column 2, lines 38-44). It would have been obvious to one of ordinary skill in the art at the time the claimed invention was made to apply the synchronized translation and optical alignment of Sampas to the optical detection system of Lefkowitz et al. One of ordinary skill in the art would have been motivated to do so for the

Art Unit: 1634

expected benefit of obtaining high resolution, high detection efficiency and good background suppression using a small number of moving parts as taught by Sampas (Column 2, lines 38-44).

Regarding Claim 3, Lefkowitz et al disclose the system wherein the probes are DNA, RNA, proteins or biomimetics (Column 6, lines 25-32 and 50-54).

Regarding Claim 4, Lefkowitz et al disclose the system wherein the biomimetics are PNA (Column 6, lines 50-54).

Regarding Claim 10, Lefkowitz et al disclose the system further comprising a biofluidic system having a plurality of microfluidic channels (e.g. inlet conduit #556, Column 20, lines 51-67 and Fig. 16).

Regarding Claim 11, Lefkowitz et al disclose the system wherein the microarrays are on a translatable tape (e.g. web #10, Column 19, lines 37-42).

Regarding Claim 12, Lefkowitz et al disclose the system comprising a structure for translating the tape (e.g. reels, Column 19, lines 61-67).

Regarding Claim 16, Lefkowitz et al disclose the system comprising a tape (web) having the plurality of microarrays wherein the sample is collected and processed i.e. applied and analyzed (Column 19, line 26-Column 20, line 67). The recitation "provides sample collection and processing" is an intended use of the microarrays. The recitation does not define or further limit the microarrays on the tape.

Regarding Claim 20, Lefkowitz et al disclose the system further comprising a visual display (e.g. communication module #164 Column 19, lines 41-48).

4. Claims 1-7, 10-12, 14-15 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Vo-Dinh (WO 00/43552, published 27 July 2000) in view of Sampas (U.S. Patent No. 6,084,991, issued 4 July 2000).

Regarding Claim 1, Vo-Dinh discloses an integrated circuit comprising a plurality of probe microarrays, each having a plurality of probe elements (Fig. 8), a source of electromagnetic radiation (e.g. laser Fig. 6A), a structure for translating the plurality of microarrays wherein the microarrays are replaceable with the next microarray (i.e. translation stage, page 66, lines 10-27), and a circuit including a plurality of detection channels to which the probes are brought into alignment with (e.g. CCD, page 63-66 and Fig. 8). Vo-Dinh further teaches a the system produces a two-dimensional image of fluorescent signals which clearly suggests simultaneous irradiation of probes but they do not specifically teach synchronization of the system including time intervals. However, synchronized array scanning systems were well known in the art at the time the claimed invention was made as taught by Sampas.

Sampas teaches a system comprising a source of electromagnetic radiation, a translating structure (stepper motor and stage) a plurality of detection channels (CCD array) for optical alignment of the array and a control system connected to the transition structure for synchronizing optical alignment of the sample so as to cease translation while sensing and subsequent re-alignment (time between incremental steps generated by the motor controller in response to an electronic signal) (Column 7, lines 28-58). Sampas teaches the synchronized system provides high resolution, high detection efficiency and good background suppression using a small number of moving parts (Column 2, lines 38-44). It would have been obvious to one of ordinary skill in the art at the time the claimed invention was made to apply the synchronized translation and optical alignment of Sampas to the optical detection system of Vo-Dinh et al. One of ordinary skill in the art would have been motivated to do so for the expected benefit of obtaining high resolution, high detection efficiency and good background suppression using a small number of moving parts as taught by Sampas (Column 2, lines 38-44).

Art Unit: 1634

Regarding Claim 2, Vo-Dinh discloses the system wherein the microarrays comprise at least one protein probe and one nucleic acid probe (page 4, lines 25-35 and page 76, lines 28-35).

Regarding Claim 3, Vo-Dinh discloses the system wherein the probes are DNA, RNA, proteins or biomimetics (page 17, lines 7-28).

Regarding Claim 4, Vo-Dinh discloses the system wherein the biomimetics are PNA (page 17, lines 20-28).

Regarding Claim 5, Vo-Dinh discloses the system comprising an air sampler (page 59, lines 1-7).

Regarding Claim 6, Vo-Dinh discloses the system comprising a sample concentrator (i.e. evaporator, page 52, lines 12-14).

Regarding Claim 7, Bo-Dinh et al disclose the system comprising a flow injection analysis system (e.g. pneumatic Picopump, page 16, lines 4-9).

Regarding Claim 10, Vo-Dinh discloses the system comprising a biofluidic system having a plurality of channels for directing sample to the microarrays (e.g. pneumatic Picopump, page 16, lines 4-9).

Regarding Claim 11, Vo-Dinh discloses the system wherein the microarrays are on a translatable tape (e.g. membrane or filter support, page 26, lines 30-32 on a translation stage, page 66, lines 25-27).

Regarding Claim 12, Vo-Dinh discloses the system comprising a structure for translating the tape (i.e. translation stage, page 66, lines 25-27).

Regarding Claim 14, Vo-Dinh discloses the system comprising separate channels for each receptor probe (page 5, lines 5-18 and page 76, lines 28-32).

Regarding Claim 15, Vo-Dinh discloses the system wherein the detectors are photodiodes or phototransistors (page 9, lines 1-20).

Art Unit: 1634

Regarding Claim 20, Vo-Dinh discloses the system further comprising a visual display (e.g. PC, page 66, lines 16-17).

5. Claims 8-10 and 16-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Vo-Dinh (WO 00/43552, published 27 July 2000) in view of Sampas (U.S. Patent No. 6,084,991, issued 4 July 2000) as applied to Claim 1 above and further in view of Lipshutz et al (U.S. Patent No. 5,856,174, issued 5 January 1999).

Regarding Claims 8-10 and 19, Vo-Dinh discloses an integrated circuit comprising a plurality of probe microarrays, each having a plurality of probe elements (Fig. 8), a source of electromagnetic radiation (e.g. laser Fig. 6A), a structure for translating the plurality of microarrays wherein the microarrays are replaceable with the next microarray (i.e. translation stage, page 66, lines 10-27), and a circuit including a plurality of detection channels to which the probes are brought into alignment with (e.g. CCD, page 63-66 and Fig. 8).

Vo-Dinh teaches the device comprising a flow injection analysis system (e.g. pneumatic Picopump, page 16, lines 4-9) wherein the amount dispensed is precisely controlled but is silent regarding microparticles within the injection system and size exclusion. However, Lipshutz et al teach a similar device comprising a plurality of arrays and a fluidic system for injecting sample wherein the fluidic system comprises a plurality of channels for sample delivery with size exclusion wherein the size exclusion provides a cell lysis system (Column 5, line 49-Column 6, line 27) whereby a crude sample is prepared for analysis (Column 5, lines 28-36). It would have been obvious to one of ordinary skill in the art at the time the claimed invention was made to apply the size exclusion channels of Lipshutz et al to the device of Vo-Dinh for the expected benefit of providing the means for preparing a crude sample for analysis as taught by Lipshutz et al (Column 5, lines 28-36).

Art Unit: 1634

Lipshutz et al further teach the device wherein the fluidic system comprises particles (ferrofluidic particles) wherein the particles and sample are within the system (thereby coating the particles with the sample) and wherein the particles facilitated transport and mixing within the device (Column 26, lines 16-24 and Column 28, lines 37-55). It would have been obvious to one of ordinary skill in the art at the time the claimed invention was made to modify the device of Vo-Dinh by adding ferrofluidic particles as taught by Lipshutz et al. One of ordinary skill in the art would have been motivated to do so with a reasonable expectation of success for the added benefit of facilitating mixing and transport of the sample within the device as taught by Lipshutz et al (Column 26, lines 16-24 and Column 28, lines 37-55).

Regarding Claim 16-18, Vo-Dinh teaches the device is used to analyze amplified target (pages 21-25) but they are silent regarding an amplification system within the device. However, Lipshutz et al teach the similar device wherein sample collection and processing and target amplification (e.g. PCR) are provided within the device whereby all operations of sample handling are integrated into a single device (Column 4, lines 4-15). It would have been obvious to one of ordinary skill in the art at the time the claimed invention was made to modify the device of Vo-Dinh by adding components for sample processing and amplification. One of ordinary skill in the art would have been motivated to do so with a reasonable expectation of success and for the added benefit of integrating all operations of sample handling into a single device as taught by Lipshutz et al (Column 4, lines 4-15).

6. Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Vo-Dinh (WO 00/43552, published 27 July 2000) in view of Sampas (U.S. Patent No. 6,084,991, issued 4 July 2000) as applied to Claim 1 above and further in view of Hammer et al (U.S. Patent No. 6,391,264, filed 11 February 1999).

Art Unit: 1634

Regarding Claim 13, Vo-Dinh discloses an integrated circuit comprising a plurality of probe microarrays, each having a plurality of probe elements (Fig. 8), a source of electromagnetic radiation (e.g. laser Fig. 6A), a structure for translating the plurality of microarrays wherein the microarrays are replaceable with the next microarray (i.e. translation stage, page 66, lines 10-27), and a circuit including a plurality of detection channels to which the probes are brought into alignment with (e.g. CCD, page 63-66 and Fig. 8). Vo-Dinh does not teach the microarray are provided on a rotatable disk. However, Hammer et al teaches a similar device comprising a plurality of microarrays (test cartridge) wherein the arrays are provided on a rotatable disk whereby each self-contained array is centrifuged. It would have been obvious to one of ordinary skill in the art at the time the claimed invention was made to modify the microarrays of Vo-Dinh with the rotatable disk of Hammer et al. One of ordinary skill in the art would have been motivated to do so with a reasonable expectation of success and for the benefit of providing centrifugal force to individual assays as taught by Hammer et al (Column 2, lines 9-20).

7. Claim 21 is rejected under 35 U.S.C. 103(a) as being unpatentable over Vo-Dinh (WO 00/43552, published 27 July 2000) in view of Sampas (U.S. Patent No. 6,084,991, issued 4 July 2000) as applied to Claim 1 above and further in view of Tanaami (U.S. Patent No. 6,458,545, filed 15 February 2001).

Regarding Claim 21, Vo-Dinh discloses an integrated circuit comprising a plurality of probe microarrays, each having a plurality of probe elements (Fig. 8), a source of electromagnetic radiation (e.g. laser Fig. 6A), a structure for translating the plurality of microarrays wherein the microarrays are replaceable with the next microarray (i.e. translation

Art Unit: 1634

stage, page 66, lines 10-27), and a circuit including a plurality of detection channels to which the probes are brought into alignment with (e.g. CCD, page 63-66 and Fig. 8).

Vo-Dinh further teach the device is a disposable and portable device (page 77, lines 8-12) but they are silent regarding structure for attaching the device to an individual. Tanaami teaches a portable and disposable device for sample analysis wherein the device comprises structure (rubber plug for syringe insertion, Fig. 6) whereby the direct attachment improves safety for the testor and lower costs (Column 2, lines 32-50). It would have been obvious to one of ordinary skill in the art at the time the claimed invention was made to modify the device of Vo-Dinh by adding structure for attachment to an individual for the expected benefit of improved safety and lowered costs as taught by Tanaami (Column 2, lines 32-50).

Double Patenting

8. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

9. Claims 1-21 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-27, 34 and 48 of copending Application No. 10/229,600 in view of Sampas (U.S. Patent No. 6,084,991, issued 4 July 2000). Although the conflicting claims are not identical, they are not patentably distinct from each other because both sets of claims are drawn to systems comprising sampling

Art Unit: 1634

platforms having a plurality of probes immobilized thereon and excitation source. The claim sets only differ in the arrangement of the limitations within the claim sets and the '600 claim sets defining the sampling platform as a SERS platform. The SERS platform is a species of the instantly claimed genus platform. The courts have stated that a genus is obvious in view of the teaching of a species see *Slayter*, 276 F.2d 408, 411, 125 USPQ 345, 347 (CCPA 1960); and *In re Gosteli*, 872 F.2d 1008, 10 USPQ2d 1614 (Fed. Cir. 1989). Therefore the instantly claimed platform (i.e. genus) is obvious in view of the '600 SERS platform (i.e. species).

The claim sets further differ in that the instant claims are further drawn to synchronized translation and optical alignment of the sample. Synchronized array scanning systems were well known in the art at the time the claimed invention was made as taught by Sampas.

Sampas teaches a system comprising a source of electromagnetic radiation, a translating structure (stepper motor and stage) a plurality of detection channels (CCD array) for optical alignment of the array and a control system connected to the translating structure for synchronizing optical alignment of the sample so as to cease translation while sensing and subsequent re-alignment (time between incremental steps generated by the motor controller in response to an electronic signal) (Column 7, lines 28-58). Sampas teaches the synchronized system provides high resolution, high detection efficiency and good background suppression using a small number of moving parts (Column 2, lines 38-44). It would have been obvious to one of ordinary skill in the art at the time the claimed invention was made to apply the synchronized translation and optical alignment of Sampas to the optical detection system of '600 claim set. One of ordinary skill in the art would have been motivated to do so for the expected benefit of obtaining high resolution, high detection efficiency and good background suppression using a small number of moving parts as taught by Sampas (Column 2, lines 38-44).

Art Unit: 1634

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

10. Claims 1-21 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-15 of copending Application No. 10/680,389 in view of Sampas (U.S. Patent No. 6,084,991, issued 4 July 2000). Although the conflicting claims are not identical, they are not patentably distinct from each other because both sets of claims are drawn to systems comprising sampling platforms having probes immobilized thereon. The claim sets merely differ in the arrangement of the limitations within the claim set and further differ in that the '389 claims are drawn to at least one probe while the instant claims are drawn to microarrays having a plurality of probes. However, the instantly claimed plurality of probes and the '389 at least one probe encompass the same scope. Therefore, the claim sets are not patentably distinct.

The claim sets further differ in that the instant claims are further drawn to synchronized translation and optical alignment of the sample. Synchronized array scanning systems were well known in the art at the time the claimed invention was made as taught by Sampas.

Sampas teaches a system comprising a source of electromagnetic radiation, a translating structure (stepper motor and stage) a plurality of detection channels (CCD array) for optical alignment of the array and a control system connected to the translation structure for synchronizing optical alignment of the sample so as to cease translation while sensing and subsequent re-alignment (time between incremental steps generated by the motor controller in response to an electronic signal) (Column 7, lines 28-58). Sampas teaches the synchronized system provides high resolution, high detection efficiency and good background suppression using a small number of moving parts (Column 2, lines 38-44). It would have been obvious to

Art Unit: 1634

one of ordinary skill in the art at the time the claimed invention was made to apply the synchronized translation and optical alignment of Sampas to the optical detection system of '389 claim set. One of ordinary skill in the art would have been motivated to do so for the expected benefit of obtaining high resolution, high detection efficiency and good background suppression using a small number of moving parts as taught by Sampas (Column 2, lines 38-44).

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

11. Claims 1-21 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-26 of U.S. Patent No. 6,743,581 in view of Sampas (U.S. Patent No. 6,084,991, issued 4 July 2000). Although the conflicting claims are not identical, they are not patentably distinct from each other because both sets of claims are drawn to systems comprising sampling platforms having receptors immobilized thereon. The claim sets merely differ in the arrangement of the limitations within the claim set and further differ in that the instant claims are further drawn to means for translating the immobilized receptors. However, the broadly claimed means for translating does not distinguish over the '581 system because the patent teaches the preferred system includes the translation means (Column 48, lines 6-8). Furthermore, the instantly claimed translation means encompasses any surface or edge of the platform by which an operator would manually move the platform. The broadly claimed translation means are clearly illustrated in every embodiment of the '581 patent. Therefore, the instant claim set and the patent claim set are not patentably distinct.

The claim sets further differ in that the instant claims are further drawn to synchronized translation and optical alignment of the sample. Synchronized array scanning

Art Unit: 1634

systems were well known in the art at the time the claimed invention was made as taught by Sampas.

Sampas teaches a system comprising a source of electromagnetic radiation, a translating structure (stepper motor and stage) a plurality of detection channels (CCD array) for optical alignment of the array and a control system connected to the translation structure for synchronizing optical alignment of the sample so as to cease translation while sensing and subsequent re-alignment (time between incremental steps generated by the motor controller in response to an electronic signal) (Column 7, lines 28-58). Sampas teaches the synchronized system provides high resolution, high detection efficiency and good background suppression using a small number of moving parts (Column 2, lines 38-44). It would have been obvious to one of ordinary skill in the art at the time the claimed invention was made to apply the synchronized translation and optical alignment of Sampas to the optical detection system of '581 claim set. One of ordinary skill in the art would have been motivated to do so for the expected benefit of obtaining high resolution, high detection efficiency and good background suppression using a small number of moving parts as taught by Sampas (Column 2, lines 38-44).

Response to Comments

12. Applicant has provided no arguments traversing the above rejections under obviousness-type double patenting. Therefore, the rejections are maintained and made FINAL.

13. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

Art Unit: 1634

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Conclusion

14. No claim is allowed.

15. Any inquiry concerning this communication or earlier communications from the examiner should be directed to BJ Forman whose telephone number is (571) 272-0741. The examiner can normally be reached on 6:00 TO 3:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ram Shukla can be reached on (571) 272-0735. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

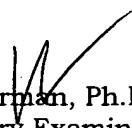
Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to (571) 272-0547.

Patent applicants with problems or questions regarding electronic images that can be viewed in the Patent Application Information Retrieval system (PAIR) can now contact the USPTO's Patent Electronic Business Center (Patent EBC) for assistance. Representatives are available to answer your questions daily from 6 am to midnight (EST). The toll free number is (866) 217-9197. When calling please have your application serial or patent number, the type of document you are having an image problem with, the number of pages and the specific nature of the problem. The Patent Electronic Business Center will notify applicants of the resolution of the problem within 5-7 business days. Applicants can also check

Art Unit: 1634

PAIR to confirm that the problem has been corrected. The USPTO's Patent Electronic Business Center is a complete service center supporting all patent business on the Internet. The USPTO's PAIR system provides Internet-based access to patent application status and history information. It also enables applicants to view the scanned images of their own application file folder(s) as well as general patent information available to the public.

For all other customer support, please call the USPTO Call Center (UCC) at 800-786-9199.



BJ Forman, Ph.D.
Primary Examiner
Art Unit: 1634
April 11, 2006